## CLAIMS

What is claimed is:

1. A method for separating IgG half antibodies from IgG whole antibodies, wherein the half antibodies and the whole antibodies are of the same isotype, comprising:

obtaining a sample that contains a mixture of IgG half antibodies and IgG whole antibodies of the same isotype;

reducing the pH of the sample such that the half antibodies dissociate from one another to form a resulting solution; and

applying the resulting solution to a column that differentially retards the mobility of the IgG half antibodies and IgG whole antibodies.

2. The method of claim 1, wherein the column retains both the IgG half antibodies and the IgG whole antibodies present in the resulting solution.

3. The method of claim 2, wherein the column is an ion exchange column.

4. The method of claim 3, wherein the ion exchange column is a cation exchange column.

5. The method of claim 2 further comprising subjecting the column to conditions which selectively elute IgG half antibodies retained by the column.

6. The method of claim 5, wherein the conditions which selectively elute IgG half antibodies retained by the column comprise adding a buffer to the column such that the pH of the buffer present within the column is increased to a level sufficient to selectively elute the IgG half antibodies.

7. The method of claim 6, wherein the pH of the buffer present within the column is increased to about 7.0 or greater.

8. The method of claim 5 further comprising subjecting the column to conditions which elute IgG whole antibodies retained by the column.

9. The method of claim 8, wherein the conditions which elute IgG whole antibodies comprise adding a buffer to the column such that the ionic strength of the buffer

present within the column is increased to a level sufficient to elute the IgG whole antibodies.

10. The method of claim 1, wherein the IgG half antibodies and the IgG whole antibodies are of the IgG4 isotype.

11. The method of claim 1, wherein the IgG half antibodies and the IgG whole antibodies are of the IgG1, IgG2, or IgG3 isotype.

12. The method of claim 1, wherein the IgG half antibodies and the IgG whole antibodies are mammalian IgG half antibodies and IgG whole antibodies.

13. The method of claim 12, wherein the mammalian IgG half antibodies and IgG whole antibodies are human IgG half antibodies and IgG whole antibodies.

14. The method of claim 12, wherein the mammalian IgG half antibodies and IgG whole antibodies are chimeric IgG half antibodies and IgG whole antibodies.

15. The method of claim 12, wherein the mammalian IgG half antibodies and IgG whole antibodies are $F(ab)_2$ half antibodies and $F(ab)_2$ whole antibodies.

16. The method of claim 1, wherein the sample is obtained from milk.

17. The method of claim 16, wherein the milk is from a mammal.

18. The method of claim 16, wherein the milk is from an ungulate, pig, rabbit, or mouse.

19. The method of claim 1, wherein the sample is obtained from an egg.

20. The method of claim 1, wherein the sample is obtained from serum.

21. The method of claim 1, wherein the sample is obtained from cell culture medium.

22. A purified IgG half antibody preparation obtained by the method of claim 1.

23. The purified IgG half antibody preparation of claim 22, wherein the antibodies are of the IgG4 isotype.

24. The purified IgG half antibody preparation of claim 22, wherein half antibodies comprise at least 90% of the total amount of antibody in the preparation.

25. The purified IgG half antibody preparation of claim 24, wherein half antibodies comprise at least 95% of the total amount of antibody in the preparation.

26. The purified IgG half antibody preparation of claim 25, wherein half antibodies comprise at least 99% of the total amount of antibody in the preparation.

27. A purified IgG whole antibody preparation obtained by the method of claim 1, wherein the whole antibodies comprise a greater portion of the total antibody in the preparation as compared to the sample prior to being treated by the method of claim 1.

28. The purified IgG whole antibody preparation of claim 27, wherein the antibodies are of the IgG4 isotype.

29. The purified IgG whole antibody preparation of claim 27, wherein whole antibodies comprise at least 80% of the total antibodies in the preparation.

30. The purified IgG whole antibody preparation of claim 29, wherein whole antibodies comprise at least 90% of the total antibodies in the preparation.

31. A method for separating IgG half antibodies from IgG whole antibodies, wherein the half antibodies and the whole antibodies are of the same isotype, comprising:

obtaining a sample that contains a mixture of IgG half antibodies and IgG whole antibodies of the same isotype;

reducing the pH of the sample such that the half antibodies dissociate from one another to form a resulting solution;

applying the resulting solution to an ion exchange column such that both the IgG half antibodies and IgG whole antibodies are retained by the column;

adding a buffer to the column such that the pH of the buffer present within the column increases to a level sufficient to selectively elute the IgG half antibodies; and

subsequently adding a buffer to the column such that the ionic strength of the buffer present within the column increases to an amount sufficient to elute the IgG whole antibodies.

32. The method of claim 31, wherein the sample is obtained from milk.

33. The method of claim 32, wherein the milk is from a mammal.

34. The method of claim 33, wherein the milk is from an ungulate, pig, rabbit, or mouse.

35. The method of claim 31, wherein the sample is obtained from an egg.

36. The method of claim 31, wherein the sample is obtained from serum.

37. The method of claim 31, wherein the sample is obtained from cell culture medium.

38. The method of claim 31, wherein the IgG half antibodies and the IgG whole antibodies are of the IgG4 isotype.

39. The method of claim 31, wherein the pH of the sample is reduced to a pH below 4.0.

40. The method of claim 36, wherein the pH is reduced to a pH between about 2.0 to 4.0.

41. The method of claim 40, wherein the pH is reduced to a pH of about 3.5.

42. The method of claim 31, wherein the ion exchange column is a cation exchange column.

43. The method of claim 31, wherein the pH of the buffer present within the column is increased to at least 6.5 or greater.

44. The method of claim 43, wherein the pH of the buffer present within the column is increased to about 7.0.

45. A purified IgG half antibody preparation obtained by the method of claim 31.

46. The purified half antibody preparation of claim 45, wherein the antibodies are of the IgG4 isotype.

47. The purified half antibody preparation of claim 45, wherein half antibodies comprise at least 90% of the total amount of antibody in the preparation.

48. The purified half antibody preparation of claim 47, wherein half antibodies comprise at least 95% of the total amount of antibody in the preparation.

49. The purified half antibody preparation of claim 48, wherein half antibodies comprise at least 99% of the total amount of antibody in the preparation.

50. A purified IgG whole antibody preparation obtained by the method of claim 31, wherein the whole antibodies comprise a greater potion of the total antibody in the preparation as compared to the sample prior to being treated by the method of claim 31.

51. The purified IgG whole antibody preparation of claim 50, wherein the antibodies are of the IgG4 isotype.

52. The purified IgG whole antibody preparation of claim 50, wherein the whole antibodies comprise at least 80% of the total antibodies in the preparation.

53. The purified IgG whole antibody preparation of claim 52, wherein the whole antibodies comprise at least 90% of the total antibodies in the preparation.

54. A purified IgG half antibody preparation, wherein at least 90% of the total antibodies in the preparation are half antibodies.

55. A purified IgG whole antibody preparation, wherein the preparation includes half antibodies and whole antibodies and wherein at least 80% of the total antibodies are whole antibodies.

56. The preparation of claim 55, wherein the preparation further contains casein contaminants.

57. The method of claim 1, wherein said column is a HIC column.

58. The method of claim 31, wherein said column is a HIC column.

59. The method of claim 2, wherein said column is a HIC column.

60. The method of claim 5, wherein said column is a HIC column.

61. The method of claim 6, wherein said column is a HIC column.

62. The method of claim 43, wherein said column is a HIC column.